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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,095	07/22/2005	Bruce I Rosen	608-458	5694
23117 7590 08/26/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
ZUCKER, PAUL A				
ART UNIT		PAPER NUMBER		
1621				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/543,095

**Applicant(s)**

ROSEN, BRUCE I

**Examiner**

Paul A. Zucker

**Art Unit**

1621

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 42-82 is/are pending in the application.
- 4a) Of the above claim(s) 71-82 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42-48 and 50-70 is/are rejected.
- 7) ☒ Claim(s) 49 is/are objected to.
- 8) ☐ Claim(s) 42-82 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
- Paper No(s)/Mail Date 7/22/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 42-70 in the reply filed on 23 May 2008 is acknowledged. The traversal is on the grounds that the claimed catalyst is novel and therefore forms the basis. This is not found persuasive because, after careful consideration of applicants' arguments, and in view of the prior art rejections set forth below, the catalyst is not to be novel and therefore cannot be used to support unity of invention. The requirement is still deemed proper and is therefore made FINAL. Claims 71-82 are held withdrawn from consideration as being drawn to a non-elected invention

### ***Specification***

2. The disclosure is objected to because of the following informalities: A section entitled Brief Description of the Several Views of the Drawing(s) is required See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 44- 46, 50-53 and 68-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims recite the

limitations "such as", "for example", "preferably", "most preferably" and/or "more preferably". These limitations render the claim indefinite because it is unclear whether the limitations following them are part of the claimed invention. See MPEP § 2173.05(d).

4. Claims 57, 65 and 66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 57 does not define the limits of the variable "e". It is therefore impossible to determine the metes and bounds of Applicant's claimed catalyst composition. Claim 57 and its dependents are therefore rendered indefinite.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 42-48, 51 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Archibald (US 2,435,379 02-1948). Archibald discloses (Column 2, line 51-column 3, line 3) spherical alumina-supported catalyst particles for use in fluidized beds. Archibald discloses (Column 3, lines 36-65) formation of the spherical catalyst particles by the formation of gels or sols and spray-drying thereof. Archibald

discloses (Column 5, line 50- column 7, line 2) the production of particles of 10-200 microns as well as up to 3000 microns which the Examiner presumes have the instantly required low BET values due to the smoothness of the particles produced (See photomicrographs). Archibald further discloses (Column 7, lines 3-40) calcination at temperatures up to 1500°F. The Examiner presumes that alpha alumina is produced by the process of Archibald. Archibald therefore anticipates claims 42-48, 51 and 52.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 42-48 and 50-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al (US 6,333,444-B1 12-2001) in view of Archibald (US 2,435,379 02-1948).

Instantly claimed are supported catalysts comprising molybdenum, vanadium, niobium and, in some cases, gold which are produced by spray-drying support-catalyst slurries followed by calcination of the solid particle produced.

Ellis teaches (Abstract) a catalyst  $\text{Mo}_a\text{W}_b\text{Au}_c\text{V}_d\text{Nb}_e\text{Y}_f$  and its use in the oxidation of ethane to acetic acid. The ranges set forth in instant claim 57 correspond to those Ellis teaches (Column 2, lines 3-35). Ellis teaches (Column 2, lines 62-64). Ellis teaches (Column 3, lines 1-2 and lines 39-43, respectively) the use of his catalyst in a fluidized bed as well as calcination of the catalyst. Ellis teaches production of his catalysts by mixing different component solutions. The temperatures and pH's of the solutions are readily optimized by the ordinary artisan in the practice of Ellis's process

The difference between the catalyst taught by Ellis and that instantly claimed is that Ellis does not teach preparation of the alumina-supported catalyst by spray-drying.

Archibald, however, teaches (Column 2, line 51-column 3, line 3) spherical alumina-supported catalyst particles for use in fluidized beds. Archibald teaches (Column 3,

lines 36-65) formation of the spherical catalyst particles by the formation of gels or sols and spray-drying thereof. Archibald teaches (Column 5, line 50- column 7, line 2) the production of particles of 10-200 microns as well as up to 3000 microns which the Examiner presumes have the instantly required low BET values due to the smoothness of the particles produced (See photomicrographs). Archibald further teaches (Column 7, lines 3-40) calcination at temperatures up to 1500°F. The Examiner presumes that alpha alumina is produced by the process of Archibald. Determination of the temperatures for spray drying is within the ambit of the ordinary artisan.

Thus, one of ordinary skill in the art would have been motivated to modify the process of Ellis by employing the method of Archibald to produce an alumina-supported catalyst suitable for use as a fluid bed catalyst. By doing so, a uniform, attrition-resistant catalyst could be produced. Since both disclosures are directed toward the production of catalysts, there would have been a reasonable expectation for success.

Thus the instantly claimed process would have been obvious to one of ordinary skill in the art

### ***Claim Objections***

7. Claim 49 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Allowable Subject Matter***

8. Claim 49 is drawn to allowable subject matter. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art, Archibald (US 2,435,379 02-1948) and Ellis et al (US 6,333,444-B1 12-2001), either alone or in combination, neither disclose nor fairly suggest the use of a low sodium silica in the supported catalyst.

***.Conclusion***

9. Claim 42-82 are pending. Claims 42-48 and 50-70 are rejected. Claim 49 is objected to. Claims 71-82 are held withdrawn from consideration as being drawn to a non-elected invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 571-272-0650. The examiner can normally be reached on Monday-Friday 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Sullivan can be reached on 571-272-0779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul A. Zucker/  
Primary Examiner, Art Unit 1621